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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,550	10/27/2003	Ronald S. Cok	87182THC	9646

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EXAMINER	
DONG, DALEI	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/694,550	COK, RONALD S.	
	Examiner	Art Unit	
	Dalei Dong	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on December 27, 2005, has been entered and acknowledged by the Examiner.

Drawings

2. Figures 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,815,886 to Kawase in view of U.S. Patent No. 6,211,613 to May.

Regarding claim 1, Kawase discloses an organic Light emitting display (see Fig. 10), comprising: a substrate 200, a plurality of OLEDS formed on the substrate, the OLEDS emitting polarized light wherein the OLEDS comprise: a layer 210 defining a periodic grating structure, a first electrode layer 220 conforming to the grating structure, an OLED material layer 240 formed over the first electrode layer and conforming to the grating structure, and a second electrode layer 260 formed over the OLED material layer and conforming to the grating structure, wherein the first and/or second electrode are metallic layers, whereby the periodic grating structure induces surface plasmon cross coupling in the metallic electrode layer to emit polarized light.

Kawase is silent regarding the OLED further comprising a polarizer, wherein the polarizer is oriented such that the emitted polarized light passes through the polarizer without being substantially absorbed.

However, in the same field of endeavor, May discloses an EL device comprising a circular polarizer oriented such that the emitted polarized light passes through the polarizer without being substantially absorbed, and teaches the suitability of said polarizer for improving the contrast of the display, by absorbing light from the environment (see at least Col. 1, lines 55-58). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a polarizer to the device of Kawase, in order to increase the contrast of the image.

Regarding claim 2, Kawase-May discloses the polarizer being a circular polarizer (see '613, Col. 1, lines 55-58).

Regarding claims 3 and 4, Kawase-May discloses the display being a top emitting display having an encapsulating cover, and the polarizer is affixed to the encapsulating cover; or the display being a bottom emitter and the polarizer being affixed to the substrate (see Kawase in view of Col. 2, lines 32-45 of May).

Regarding claim 5, Kawase discloses the OLED material layer including portions for emitting different colors and the period of the grating structure being different for the different colors (see Col. 10, lines 34-38).

Regarding to claim 6, Kawase discloses the OLD wherein the layer defining a grating structure is a light absorbing layer (see column 8, lines 11-19).

Regarding to claim 7, Kawase discloses the OLED wherein the metallic layers are opaque (see column 7, lines 30-51).

Referring to claim 8, Kawase discloses the grating structure being a two-dimensional grating (see Col. 6, lines 56-57).

Referring to claims 9 and 10, Kawase-May discloses the claimed invention except for the limitation of the display being an active matrix display, Kawase discloses a passive matrix display.

However, the Examiner notes that regardless of whether a passive matrix or an active matrix type is used, the EL device has a capacitor structure with an EL layer sandwiched by a cathode and an anode, and the EL display operates under the principle of causing the EL layer to luminesce by the flow of electric current. Thus, it would have been obvious to one or ordinary skill in the art at the time the invention was made to use either a passive or active matrix display, since both method of driving the display operate under the same principles. Further, it is well known in the art that active matrix type provide a high-resolution display.

Referring to claim 12, Kawase discloses the first electrode layer being lTO (see at least Col. 8, line 67).

In regards to claim 13, the claim is rejected over the reasons stated in the rejection of claim 1.

5. Claim 11 is rejected under 35 U.S.C. l03 (a) as being unpatentable over Kawase-May as applied to claim 1 above, and further in view of Terao et al. (US 6,133,581).

Kawase-May discloses the claimed invention except for the limitation of the first electrode being non-metallic and comprising a metallic layer formed on portions of the first electrode. However, in the same field of endeavor, Terao discloses an EL device comprising first electrodes including a non-metallic layer and a metallic layer formed on portions of the non-metallic layer, in order to reduce the resistance of the non-metallic

layer, providing a high light emitting efficiency and a small power consumption (see Col. 4, lines 1-4).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a metallic layer to the non-metallic electrode with the purpose of reducing the resistance of the electrode, while providing a high light emitting efficiency and a small power consumption.

6. Claim 14-17 are rejected under 35 U.S.C. l03(a) as being unpatentable over Kawase-May as applied to claim 1 above, and further in view of Biebuyck et al. (US 5,855,994).

Regarding to claim 14, Kawase-May discloses the claimed invention except for the limitation of a diffuser to mitigate the effect of color aberrations. However, in the same field of endeavor, Biebuyck discloses an EL device comprising a diffuser (see column 7, lines 18-35), in order to provide an organic light-emitting device having a light path for efficient emission.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a diffuser with the purpose of providing an organic light-emitting device having a light path for efficient emission.

Regarding to claim 15, Biebuyck teaches in Figure 1, the diffuser is applied to the exterior of the device and the motivation to combine is the same as in claim 14

Regarding to claim 16, Biebuyck teaches the diffuser is incorporated into the top encapsulate layer, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporate the diffuser into the substrate for a bottom emitting display in order to provide an organic light-emitting device having a light path for efficient emission.

Regarding to claim 17, Biebuyck teaches in Figure 1, the display is a top emitting display having an encapsulating cover, and the diffuser is incorporated into the encapsulating cover.

Response to Arguments

7. Applicant's arguments filed December 27, 2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that the Kawase fails to teach to design the EL devices with periodic grating structure in order to induce surface plasmon cross coupling in metallic electrode layers to emit polarized light, the Examiner respectfully disagree. First, the design and function of the claimed apparatus does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations (MPEP 2114). Secondly, because the Kawase reference satisfies the claimed structural limitation of the present invention and thus the Examiner asserts that the Kawase reference emits the polarized light. Finally, it is old and well known in the art to utilize grating within a light-emitting device to emit a polarized light as shown in the

Hori reference (U.S. Patent No. 6,392,338). Thus, the Examiner asserts that the prior art of record teaches the claimed invention and maintains the rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a light-emitting device.

U.S. Patent No. 6,392,338 to Hori.

U.S. Patent No. 6,787,976 to Minoura.

U.S. Patent No. 6,831,407 to Cok.

U.S. Patent Application No. 2004/0017152 to Hashimoto.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.D.
February 23, 2006

Karabi Guharay
Primary Examiner
Art Unit 2879